



An Energy Efficiency Workshop & Exposition

Palm Springs, California

Marketing UESCs: Lessons Learned at Eglin AFB

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CHELCO

June 2 -5, 2002

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CHELCO

- Serves portions of four counties in Northwest Florida panhandle
- 35,600 services in place
- 3,190 miles of lines
- 10.5 members per mile of line
- 113 employees
- Provides electric service to Eglin AFB eastern ranges

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Eglin Air Force Base

- Belongs to Air Force Materiel Command
- Air Armament Center is the host unit
- Team Eglin comprised of 45 associate units
- 60-year community presence
- Covers 724 square miles of reservation
- Has 97,963 square miles of water ranges in the Gulf of Mexico

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Eglin Air Force Base

- Employs 8,500 military
- Employs 4,500 civilian
- Served by
 - Gulf Power
 - Florida Power and Light
 - CHELCO
 - Okaloosa Gas

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Project Initiation

- CHELCO contacted Eglin about potential privatization of Eastern ranges
- Eglin resisted privatization efforts
- Eglin's Energy Manager suggested possible Energy Conservation partnership for Eastern ranges
- CHELCO interested in exploring possibility

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Exploration

- Realization of internal lack of resources
- Turned to Alabama Electric Cooperative, CHELCO's G&T
- Scheduled meetings with two experts
- Selected Sain Engineering & Associates

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Sain Engineering

- Energy conservation engineering services
- Experience with numerous DoD clients
- Extensive working knowledge of Energy Conservation Agreements
- Strong relationships with key players at Air Force Civil Engineering Support Agency

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Stephen P. Sain, P.E. C.E.M., C.E.P., C.L.E.P.

- More than 20 years related experience
- AEE International Energy Engineer of the Year--1994
- DoE/FEMP Certified Life Cycle Costing Trainer
- Co-Instructor of AEE's 5-Day Certified Energy Manager Training Course
- Developed Air Force Energy Measurement & Verification Training Course

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Provision for Energy Programs

- Executive Order 12902
*Energy Efficiency & Water Conservation at
Federal Facilities*
- Defense Energy Program Policy
Memorandum (DEPPM) 94-1
*Participation in Public Utility Sponsored DSM
Programs*
- 10 USC #2865
Energy Savings at Military Installations

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Energy Conservation Agreement

- Met with Eglin personnel on several occasions
- Discussed possible projects (focused on Eastern ranges)
- Discussed possibility of projects on main base
- Agreement signed in July 1998

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Preliminary Audit

- Requested in August 1998
- Issued only for Site C-6

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Site C-6



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Site C-6

- Remote Eastern range
- Home to the world's largest phased-array radar station--24-hour space surveillance satellite tracking
- Four buildings totaling over 200,000 gsf
- Uses as much power as a town of 8,000 residents

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Preliminary Audit Findings

- Total of eleven potential measures identified as being worthy of further investigation
- Top five measures analyzed believed to have average payback of 6.4 years and annual savings of \$98,345

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Feasibility Study/ Design Phase

- Task Order issued May 1999
- Feasibility Study delivered June 1999
- Study recommended seven ECMs
- Projected \$100,000 per year savings on Site C-6's energy bill with estimated payback of 8.5 years
- Task Order for design issued July 1999
- Design delivered September 1999

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Construction, Installation, & Implementation

- Received Task Order to proceed in September 1999
- Requested bids for Mechanical and Electrical in September 1999
- Contracted project manager in October 1999
- Began construction in November 1999
- Completed \$1.2 million project in December 2000

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ECMs Implemented

- Unoccupied temperature set-back
- Lighting controls and upgrades
- Chiller optimization
- Conversion of multi-zone air handling units to multi-zone variable air volume
- Primary/secondary pumping - installed variable frequency drives on two secondary chiller water pumps & pump controls
- High efficiency motors

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Bumps in the Road

- Bureaucracy
- Bidding process
 - Lighting
 - Financing

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Progress on Other Projects

- Lobbied to get on Main Base
- Conducted preliminary audit of Hospital and Officers' Club
- Received a "waiting pattern" response
- Decided not to pursue further projects at this time

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Conclusions

- Site C-6 project strengthened our relationship with the Eglin community
- Finding top-notch subcontractors led to success of project
- Working with the government is tough

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